

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
24 February 2005 (24.02.2005)

PCT

(10) International Publication Number
WO 2005/018287 A1

(51) International Patent Classification⁷: **H05F 3/06**

(21) International Application Number:
PCT/KR2003/002046

(22) International Filing Date: 2 October 2003 (02.10.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
10-2003-0056410 14 August 2003 (14.08.2003) KR

(71) Applicant (for all designated States except US): **SUNJE HITEK CO., LTD.** [KR/KR]; 700-18 Mora-dong, Sasang-gu,, Pusan 617-080 (KR).

(72) Inventor; and

(75) Inventor/Applicant (for US only): **LEE, Dong-Hoon** [KR/KR]; 106-2301 Daerim 1-cha Apartment, 25-tong 8-ban, 1396 Joa-dong, Haewoondae-gu, Pusan 612-755 (KR).

(74) Agent: **KIM, Sung-Soo**; Room No. 702, Dongil Plaza Building, 763-7 Sanggye-6-dong, Nowon-gu, Seoul 139-831 (KR).

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

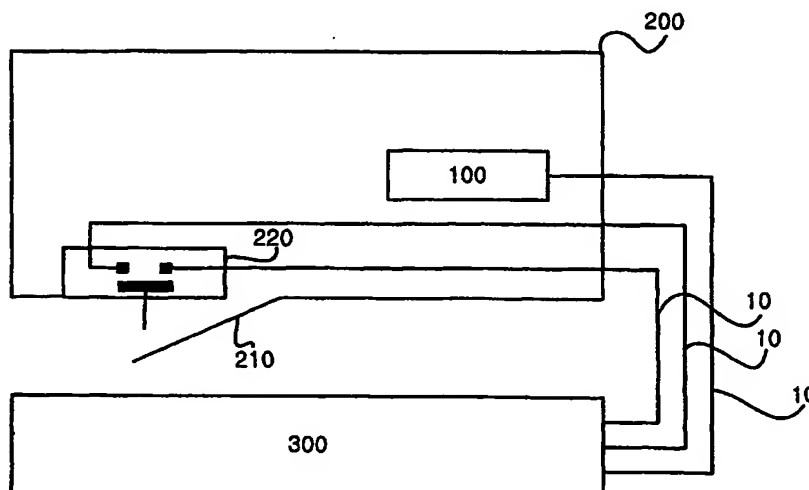
(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: A DEVICE FOR REMOVING ELECTROSTATIC CHARGES ON AN OBJECT USING SOFT X-RAY



(57) Abstract: A remover of electrostatic charges comprises a head part, a soft X-ray protecting part, and a power controlling part. The head part neutralizes and weakens electrostatic charges of bodies that are objects of removal of electrostatic charges by generating soft X-ray having wavelengths in the range of 1.2Å ~ 1.5Å with high energy from a soft X-ray tube, and ionizes gas molecules directly and also removes electrostatic charges in atmosphere of inert gases (N₂, Ar). The soft X-ray protecting part wraps the head part and prevents that soft X-ray is leaked from said head part. The power controlling part is connected to the head part and the soft X-ray protecting part electrically and provides target voltage to control the ion generation of filament voltage of a soft X-ray tube and soft X-ray tube with the soft X-ray tube.